

CHAPTER 13B

PRE-ENGINEERED BUILDINGS

13B-01 GENERAL

a. Coordination of the Work

(1) This chapter covers the installation of pre-engineered buildings. Most such buildings require placement of foundations and ground level slabs on grade. Some designs require basements and/or crawl spaces.

(2) The placement of the foundations and slabs will require close coordination between site grading, placement of exterior and under the structure utilities, including vapor barrier, and under the slab drainage if specified.

(3) Testing of the water lines, drain lines, sewers, and gas lines will have to be accomplished prior to being covered by the foundation and slabs.

(4) Electrical lines and communication lines will either have to be coordinated with the placement of the foundation or the slabs.

(5) Seismic considerations required by a design and the seismic zone will have to be incorporated in the foundations and slabs. This will include seismic reinforcing steel in masonry and concrete, flexible joints where branch lines leave main drain lines under ground and seismic penetrations through foundation walls.

b. Verification of Dimensions

It is of the utmost importance that the foundations and slabs fit the pre-engineered building, and that such items contain the required hold down bolts or fastening plates. The contractor shall verify all dimensions and coordinate its dimensions with the approved shop drawings and contract drawings. The contracting officer will be advised of any discrepancy before Contractor performs any work.

13B-02 Materials

a. Submittals

(1) Shop drawings shall consist of the complete details necessary to join together the foundations, slabs and pre-engineered structure. The shop drawings will provide a complete list of equipment and materials, including manufacturer's descriptive and technical literature. The shop drawings will provide the erection sequence, tie down arrangement, and joining together details.

(2) Shop drawings will show electrical, mechanical, structural, and architectural features included in the factory constructed units and how these units will be joined to the field installed components.

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b. Manufacturer*s Representative

Check requirements for manufacturer*s representative supervising the unloading, storage, and erection of the pre-engineered structure. Metal building guide specification does not require a manufacturer*s representative.

c. Delivery and Storage

Equipment, parts, and units when delivered will be stored with protection from the weather, humidity, temperature variations, dirt, dust, or other contaminants Deliveries should be scheduled to minimize job site storage whenever possible.

13B-03 ERECTION

a. Foundations and Services

(1) Check Civil, Structural, Mechanical, and Electrical plans against approved shop drawings to insure proper orientation of building, that building will fit foundation and prepared slabs, and that all utilities required to be concealed are installed prior to foundation or slab placement.

(2) Check anchor bolt and other tie down location, size, and projections. Protect such tie down devices from damage from construction equipment.

(3) Study erection procedures. Insure that manufactured units and parts can be trucked to either erection location or to storage as required. Coordinate underground work, deliveries, and erection to avoid delay or unsafe working procedures.

(4) Work closely with CQC representative and the manufacturer*s representative to insure that parts and portions of the structure and utilities are fitted together without bending or overstressing the parts or connections.

(5) Check connection points for completeness of joining, required method of joining, and to make sure that all components are present at the joining.

(6) Check exposed details of joined areas to insure that required tolerances are met, that covers are provided as specified, and that meeting planes are aligned, smooth and not damaged as a result of shipping, storage, or erection.

b. Electrical and Mechanical

(1) Check shop drawings and contract drawings to insure that all required services, utilities, and equipment are provided and in the required location. Advise your supervisor if errors or omissions are encountered.

(2) Determine if field run electrical and mechanical runs are required to be installed prior to or after the pre-engineered units have been placed.

(3) Coordinate mechanical and electrical work with structural and architectural work to insure that such items are concealed and supported as required.

(4) Test utilities before concealment.

(5) Provide seismic bracing for electrical and mechanical equipment as required by the contract documents and the seismic zone.

(6) Check specified materials in exposed area to insure proper finishes.

(7) Check all outlets, conduits, pipes, and fixtures for firm attachment, required height, slope, and insulation required. height, slope, and insulation if

(8) Check all equipment and fixtures for ease of operating.

13B-04 TESTING AND CHECK OUT PROCEDURES

a. Check all joined together units for good fit, cover plates, joining strips, or caulking as scarified. Check contract requirements for wall end floor coverings such as wallpaper and carpets.

b. Insure that using personnel are provided specified training. Document the names and positions of user personnel trained

c. Insure posting of operating instructions and obtaining maintenance manuals for furnished or installed equipment.

d. Conduct specified acceptance tests on electrical and mechanical equipment. Obtain test results.

a. Operate all doors, windows, and movable partitions. Check for ease of operation, full opening and adjustment of hardware. Require correction or adjustment of all items not performing correctly.